

Application No.: 09/939,626

AMENDMENT TO CLAIMS

1. (Previously presented) An image recorder optically scanning an image recording medium in a main scanning direction and a subscanning direction for recording an image on said image recording medium, comprising:

a light source emitting a first light beam;

a spatial light modulator dividing said first light beam into a plurality of second light beams arranged at least in said subscanning direction while modulating said plurality of second light beams in response to image signals;

a focusing optical system for focusing said plurality of second light beams on a recording medium; and

a main scanning system for scanning said recording medium with said plurality of second light beams in said main scanning direction, wherein

said plurality of second light beams constitute a plurality of beam subsets,

each beam subset consists of N adjacent light beams in said subscanning direction, where the number N is an integer of at least two, and

said plurality of light beams belonging to each said beam subset are synchronously modulated by a single image signal for a single pixel so that each pixel on said recording medium is recorded by a single beam subset,

whereby power density for recording each pixel is increased in response to the square of the number N.

2. (Original) The image recorder according to claim 1, satisfying the following inequality:

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$$L_a \leq L_b \leq (N \times L_a)$$

where L_a represents the size of a beam spot, formed by each second light beam on said recording medium, in said subscanning direction, and

L_b represents the size of said beam spot in said main scanning direction.

3. (Original) The image recorder according to claim 1, further comprising:
a numerical value changing element for changing the number N in response to light intensity required for image recording, and
a magnification changing element for changing a magnification of said focusing optical system in response to the number N changed by said numerical value changing element.

4. (Original) The image recorder according to claim 1, wherein
said spatial light modulator is a light valve with no discernible boundaries between adjacent modulating elements.

5. (Original) The image recorder according to claim 4, wherein
said light valve is the Grating Light Valve™.

6. (Previously presented) An image recorder optically scanning an image recording medium in a main scanning direction and a subscanning direction for recording an image on said image recording medium, comprising:

a light source emitting a plurality of modulated light beams from a plurality of light emitting devices arranged in said subscanning direction;

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a focusing optical system focusing said plurality of light beams on a recording medium;
and
a main scanning system for scanning said recording medium with said plurality of light beams in said main scanning direction, wherein
said plurality of light beams constitute a plurality of beam subsets,
each beam subset consists of N adjacent light beams in said subscanning direction, where the number N is an integer of at least two, and
said plurality of light beams belonging to each said beam subset are synchronously modulated by a single image signal for a single pixel so that each pixel on said recording medium is recorded by a single beam subset,
whereby power density for recording each pixel is increased in response to the square of the number N.

7. (Original) The image recorder according to claim 5, satisfying the following inequality:

$$L_a \leq L_b \leq (N \times L_a)$$

where L_a represents the size of a beam spot, formed by each light beam on said recording medium, in said subscanning direction, and

L_b represents the size of said beam spot in said main scanning direction.

8. (Original) The image recorder according to claim 6, further comprising:
a numerical value changing element for changing the number N in response to light intensity required for image recording, and

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a magnification changing element for changing a magnification of said focusing optical system in response to the number N changed by said numerical value changing element.

9. (Canceled)